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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ok-Hyun Son

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04/04/2006

ROBERT E. BUSHNELL

1522 K STREET NW

SUITE 300

WASHINGTON, DC 20005-1202

EXAMINER

HABERMEHL, JAMES LEE

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/971,081	<b>Applicant(s)</b> SON, OK-HYUN	
	<b>Examiner</b> James L. Habermehl	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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1. This Office action is in response to arguments filed 20 March 2006, which papers have been placed of record in the file.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification fails to describe "a controller regulating movement of said head based on at least one of said first data address mark and said second data address mark."

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 32-34 and 50-52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains the limitation "a controller regulating movement of said head based on at least one of said first data address mark and said second data address mark" which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no disclosure of regulating movement of the head based on one of the data address marks as claimed. Col. 4, lines 5-11 show the disk format is servo sectors and data sectors, and the actual digital data is written into the data fields which are in the data sectors, not the servo sectors. Col. 4, lines 26-30

and 34-37 show the data address mark is part of the data field, the data address mark informs that the data is started and provides necessary synchronization when reading the data, and the data is the actual digital information stored in the disk, and thus is not the servo information stored on the disk in the servo sector. Col. 4, lines 12-21 do discuss information such as cylinder number which could conceivably be used while regulating movement of said head, but this is in the context of the ID field, which is distinct from the data field. Col. 5, lines 21-43 describe regulating movement of said head, but by using head position information which is servo information, and by using a track number. The disclosure does not state the source of the track number information. A review of all the prior art cited by both the examiner and by applicant during the prosecution of this application shows track number information is commonly obtained in the art from the servo information in servo sectors, not from the user data in data sectors. Even if it were obtained from the cylinder number mentioned above, that would still be from the ID field and not from the data field. There is no description of said claim limitation in applicant's disclosure as originally filed, thus said claim limitation is new matter and must be deleted from the claims.

5. Claims 32-34 and 50-52 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for reading first and second data address marks, does not reasonably provide enablement for "a controller regulating movement of said head based on at least one of said first data address mark and said second data address mark." The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. Col. 5, lines 21-43

describe regulating movement of said head, but by using head position information which is servo information, and by using a track number. The disclosure does not state the source of the track number information. A review of all the prior art cited by both the examiner and by applicant during the prosecution of this application shows it is commonly obtained in the art from the servo information in servo sectors, not the user data in data sectors. Even if it were obtained from the cylinder number mentioned above, that would still be from the ID field and not from the data field. Making the claimed invention would require undue experimentation, as the disclosure completely lacks any description of how one can regulate the position of the head based on data address marks, while the cited prior art fails to show even the slightest description of how this feat can be performed and the examiner in his experience can not recall any showing in the prior art of such a means for regulating head movement. The examiner does not consider this claim limitation to necessarily be beyond the level of ordinary skill in the art, but at this time it is not possible to make any such determination without knowing how the claimed movement regulation is performed, and applicant's disclosure fails to provide any details requisite for making such a determination; applicant's disclosure provides no guidance as to how to make this aspect of the claimed invention.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3, 6, 16-17, 20-21, 24, 26-28, 31, 35-49 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Malone, Sr. Malone, Sr. Figures 2A, 5A-8, and 10 meet all the limitations of claims 1, 16, 20, 24, 26-27, 31, 37, 40, 44, 46-47, 49, and 54. Figure 5A shows recording said data address mark to establish synchronization requested for reading user data in at least two different recording locations (14 and 62, where sync bytes correspond to the claimed data address marks as they indicate the location of the data along the track), and Figure 8 shows when one data address mark (14) is detected (92) to establish synchronization requested for reading user data (96), regarding said one mark as an effective mark of a corresponding data region, and skipping a remaining mark (62) when any one mark is normally detected (98), which comprises distinguishing between the two address marks. Figure 2A shows data blocks (34) preceding said servo information areas (30).

Regarding claims 2, 17, 21, 28, 35-36, 38-39, 45, and 48, Figure 5A shows sync bytes 14 and 62 are recorded in two separate locations, and col. 7, lines 47-49 show the second data address mark (secondary sync byte) recorded with a pattern different from the first pattern.

Regarding claim 3, col. 5, lines 56-57 show each said address mark (sync byte) being constructed of one (or more) byte of information.

Regarding claim 6 and 41-43, col. 13, lines 49-57 show the data address mark (sync byte) being detected by a disk drive controller performing a masking function with respect to the data address mark (sync byte).

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the Admitted Prior Art and Malone, Sr. Regarding claims 7 and 11-12, the Admitted Prior Art shows a headerless servo recording system with headerless servo sectors and data sectors with an ID field and a data field with a single data address mark.

Malone, Sr. Figure 5A shows recording a data address mark to establish synchronization requested for reading user data in at least two different recording locations (14 and 62, where sync bytes correspond to the claimed data address marks as they indicate the location of the data along the track), Figures 8 and 10 show detecting said data address mark to confirm validity of user data following said data address mark (92, 94), and Figure 8 shows when one data address mark (14) is detected (92) to establish synchronization requested for reading user data (96), regarding said one mark as an effective mark of a corresponding data region for confirming the validity of the data, and skipping a remaining mark (62) when any one mark is normally detected (98), which comprises distinguishing between the two address marks. Malone, Sr. also shows a disk with tracks having servo sectors and data sectors, an error correction code region, a transducer head for reading and writing data and read servo, and means for positioning the head across the tracks (Figures 2A and 6).

Malone, Sr. shows an embodiment using servo blocks with header information, col. 2, lines 24-30 show it was known to Malone, Sr. to use an identification field in each data sector, col. 6, lines 23-25, col. 7, lines 7-10 show the invention of Malone, Sr. can be used with other servo schemes and disk formats, and claim 1 in light of the further limitation of claim 5 shows that the invention of Malone, Sr. is not limited to only headerless data blocks. Malone, Sr. does all this for the purpose of providing sync byte redundancy to improve overall disk drive reliability.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the disclosures of Malone, Sr. with the Admitted Prior Art to yield a headerless servo recording system comprising data sectors that include identification fields and that uses redundant sync bytes for data detection, the motivation being to provide sync byte redundancy to improve overall disk drive reliability in a headerless servo recording system.

Regarding claims 8 and 13, Malone, Sr. Figure 5A shows sync bytes 14 and 62 are recorded in two separate locations, and col. 7, lines 47-49 show the second data address mark (secondary sync byte) recorded with a pattern different from the first pattern.

Regarding claims 9 and 14, Malone, Sr. col. 5, lines 56-57 show each said address mark (sync byte) being constructed of one (or more) byte of information.

Regarding claims 10 and 15, Admitted Prior Art Figure 2 shows the claimed identification field.

10. Claims 16-54 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the



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present reissue is based. See *Pannu v. Storz Instruments Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001); *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp. v. United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

In claims 16, 20, 24, 26, 31, 32, and 35-54, applicant has omitted the language "skipping a remaining data address in said different recording locations of said data track, when any one data address mark recorded in said different recording locations is normally detected" and "said transducer head not utilizing a remaining data address mark recorded in said different recording locations of said data track, when a data address mark recorded in a different data address regions is detected." This language was specifically added to claims in the original patent to place it in condition for allowance.

### ***Response to Arguments***

11. Applicant's arguments filed 20 March 2006 have been fully considered but they are not persuasive.

Applicant argues 1) that the objection to the specification is incomplete for failing to identify any term or any phrase lacking clear support or antecedent basis, or inability to ascertain the meaning of the cited claim passage (applicant's response p. 3); 2) that there is sufficient support in applicant's specification for the claim elements and their claimed relationships (response pp. 4-7); and 3) asks the examiner whether three possible scenarios show the specification supports the claims (response pp. 7-9). In response the examiner notes 1) that the entire passage as cited is unsupported by the specification as stated in the previous Office action, and thus it is the elements as claimed in combination with their claimed relationship as a whole that is not supported by the specification; 2) that none of the specification passages cited by applicant show the controller regulating movement based on data address mark(s), for example, there is no showing of any use of any information derived in any way from attempting to read the data address marks that is then used to control head movement, or anything else that could support the claim language "based on;" and 3) that the examiner isn't going to speculate as to what applicant might mean by his description, but rather requires applicant to tell the examiner what applicant means by his description, and currently the examiner can not see sufficient support for controlling head movement that is based in any way on the data address mark(s), and the sooner applicant describes the head movement in question and the way it is controlled based on a data address mark, and cites the specification passage(s) that do so, the quicker the examiner can understand it and then drop the specification objection.

Applicant argues that the rejection for failing to comply with the written description requirement is improper because applicant has exercised his right to determine the subject matter which applicant regards as his invention, states that applicant does not necessarily claim basing

head movement on cylinder numbers, ID fields, or servo information, and asks the examiner whether three possible scenarios show the specification describes the claimed invention (response pp. 11-14). In response the examiner observes that applicant has neither confirmed nor denied that applicant is claiming basing head movement on cylinder numbers, ID fields, or servo information that is somehow related to the data address marks, and that the examiner isn't going to speculate as to what applicant might mean by his description, but rather requires applicant to tell the examiner what applicant means by his description. Currently the examiner can not see adequate written description for controlling head movement that is based in any way on the data address mark(s), and the sooner applicant describes the head movement in question and the way it is controlled based on a data address mark, and cites the specification passage(s) that do so, the quicker the examiner can understand it and then drop the claim rejection.

Applicant argues that the rejection for failing to comply with the enablement requirement is improper because the issue is not one of regulation of movement but of synchronization in the regulation of movement and the data address mark provides synchronization, but that how the servo circuit may be designed to employ the synchronization component of a data address mark is a separate issue (response pp. 14-19). In response the examiner notes that applicant is arguing limitations not claimed in that synchronization is not claimed, and the issue is exactly one of regulation of head movement based on data address mark(s) as stated in the rejection, and that how one skilled in the art can make and use the controller to regulate head movement based on a data address mark is exactly the enabling feature of the invention that is lacking from the disclosure. The sooner applicant shows what the head movement in question is, how the head movement in question is controlled based on a data address mark, and how this is enabled by the

disclosure by citing the specification passage(s) that do so, the quicker the examiner can understand it and then drop the claim rejection.

Applicant has argued 1) that Malone, Sr. doesn't use the phrase "data address mark" (applicant's response pp. 20-21 and 33-34); 2) that Malone, Sr. uses some sort of pattern in its sync bytes that can be distinguished in some manner by the read channel electronics, and that this is different than applicant's invention which decodes the data address marks (pp. 22-24 and 25-27); and 3) that the sync bytes of Malone, Sr. are part of the servo sector, rather than part of a data block (pp. 22, 24-25, and 26-27). In response the examiner notes that he responded to these arguments in the previous Office action, paper no. 20051109, mailed 18 Nov 05, and maintains his position for the reasons of record.

Applicant questions where Malone, Sr. discloses 1) decoding the sync bytes as a component of the data field (applicant's response pp. 27-28), 2) that a data address mark is a pattern or a group of adjacent patterns (p. 28), and 3) that a data address mark informs the disk drive that the data is started and provides necessary synchronization when reading the data (p. 28). In response the examiner notes that he responded to these arguments in the previous Office action, paper no. 20051109, mailed 18 Nov 05, and maintains his position for the reasons of record.

Applicant has argued that Malone, Sr. teaches various characteristics of sync bytes, while various sources teach various characteristics of data address marks (applicant's response pp. 28-31). In response the examiner notes that he responded to these arguments in the previous Office action, paper no. 20051109, mailed 18 Nov 05, and maintains his position for the reasons of record.

Applicant has argued that Malone, Sr. does not disclose patterns which "can be distinguished in some manner by the read channel electronics including specific addresses of data fields (applicant's response pp. 31-32). In response the examiner notes that he responded to these arguments in the previous Office action, paper no. 20051109, mailed 18 Nov 05, and maintains his position for the reasons of record.

Applicant has argued that Malone, Sr. does not show confirming validity of user data contained in said data area following said data address mark, and does not show indicating a validity of data recorded on said data sector (applicant's response pp. 34-35). In response the examiner notes that he responded to these arguments in the previous Office action, paper no. 20051109, mailed 18 Nov 05, and maintains his position for the reasons of record.

Applicant has argued that Malone, Sr. does not show skipping a remaining mark when any one mark is normally detected but instead teaches a two-out-of-three detection technique. Also argued is that Malone, Sr. does not show motivation to replace the sync byte fields 14 and 62 with applicant's data address mark, and that data address marks are not read and decoded during a sync detection timing window (applicant's response pp. 35-38). In response the examiner notes that he responded to these arguments in the previous Office action, paper no. 20051109, mailed 18 Nov 05, and maintains his position for the reasons of record.

Applicant has argued that the examiner has improperly imposed a per se rule of recapture as the scope of the newly introduced claims in the reissue application lies in-between the innermost and outermost circles of the *Ex Parte Eggert* metaphor (applicant's response pp. 39-41). In response the examiner notes that he responded to these arguments in the previous Office

action, paper no. 20051109, mailed 18 Nov 05, and maintains his position for the reasons of record.

Applicant has argued that the cited claim language is not the subject of any disclaimer by applicant (applicant's response pp. 41-42). In response the examiner notes that he responded to these arguments in the previous Office action, paper no. 20051109, mailed 18 Nov 05, and maintains his position for the reasons of record.

Applicant has argued that Section 251 allows for enlarging the scope of the claims in a reissue application within a two year window (amendment pp. 44-46), that the reissue claims do not constitute recapture because they are subject matter wholly different from the subject matter of the patented claims (amendment pp. 46-48), and that applicant did not surrender any subject matter because applicant argued that the amendment was not required to overcome the cited art (amendment pp. 48-51). In response the examiner notes that he responded to these arguments in the Office action previous to the previous Office action, paper no. 20050510, mailed 18 May 05, and maintains his position for the reasons of record.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

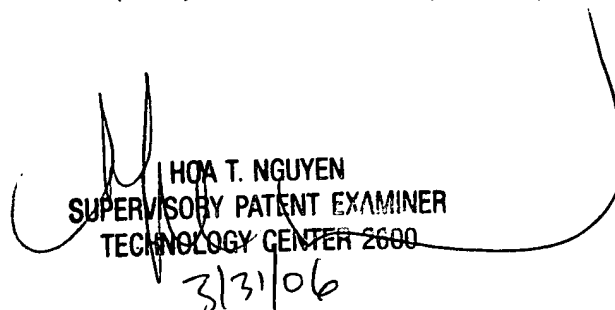
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James L. Habermehl whose telephone number is (571)272-7556. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (571)272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Habermehl/jlh  
28 Mar 06



HOA T. NGUYEN  
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